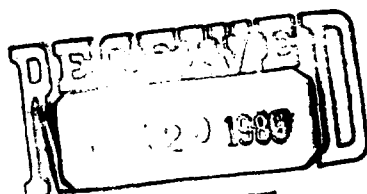


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BY P. T.

Patterson Schafer, IncorporatedEnvironmental
Consultants

March 14, 1989

Mr. Thomas G. McSwiggin
Division of Water Pollution Control
Illinois Environmental Protection Agency
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Dear Mr. McSwiggin:

The enclosed application for a construction permit is forwarded on behalf of the Cerro Copper Products Company in Sauget, Illinois. As mentioned in my conversation with Mr. Paul Takacs of your staff, the facility proposed is to improve metals recovery from a slipstream off the recirculating water loop of an air pollution control scrubber in the anode casting area. We were frankly unsure of whether such a function required a permit or not, but decided to go forward with the application anyway. We trust your review will resolve that question. Our uncertainty is also reflected in the letter of notification to the Village of Sauget.

Because an earlier construction permit was issued for a facility at Cerro's plant in Sauget, and although it was in a different process area of the plant, this current application might be appropriately characterized as a supplement to the earlier one. I raise the point as possibly mitigating the advanced stage of construction we have achieved, resulting from our focussed interest in the improved metals recovery, and the late realization of your potential jurisdictional interest.

The system itself consists of an inline mixer for caustic neutralization of about 30 gpm (40-45,000 gpd) of scrubber water, followed by a 10,000 gallon fiberglass settling tank, and a plate-and-frame filter press to dewater the metals-rich sludge. The sludge, of course, will be returned to process for metals recovery, or sold for recovery in another sector of the business. Details are provided in the application and include drawings, forwarded herewith.

C06275

Mr. Thomas G. McSwiggin
March 14, 1989
Page 2

Please feel free to call if there are any questions. We are very interested in providing every possible assistance toward expediting your review process.

Sincerely,


Carl J. Schafer

CJS/mh
880012.3

cc: P. Tandler ✓
S. Silverstein
R. Conreux
J. Patterson
R. Kissel
S. Franzetti

C06276

Illinois Environmental Protection Agency
Division of Water Pollution Control
Permit Section
Springfield, Illinois 62706

For IEPA Use:
Log Number:
Date Received:

Application For Permit Or Construction Approval.

WPC-PS-1

1. Name and Location:

Name of project: Cerro Metals Recovery Facility Upgrade

Municipality or Township: Village of Sauget County: St. Clair

2. Brief Description of Project: Caustic Treatment for Metals Recovery of 0.04 MGD Slipstream of Air Pollution Control Scrubber Recycle Water

3. Documents Being Submitted: If the project involves any of the items listed below, submit the corresponding schedule, and check the appropriate spaces.

Project

Private Sewer Connection	A	_____	Spray Irrigation	H	_____
Public Sewer Extension	B	_____	Septic Tanks	I	_____
Sewer Extension Construct Only	C	_____	Industrial Treatment or Pretreatment	J	<u>X</u>
Sewage Treatment Works	D	_____	Cyanide Acceptance	L	_____
Excess Flow Treatment	E	_____	Updating Cyanide Acceptance Form	M	_____
Lift Station/Force Main	F	_____	Waste Characteristics	N	<u>X</u>
Sludge Disposal	G	<u>X</u>	Erosion Control	P	_____
			Trust Disclosure	T	_____

4. Land Trust: Is the project identified in item number 1 herein, for which a permit is requested, to be constructed on land which is the subject of a trust? ☐ Yes ☒ No

If yes, Schedule T (Trust Disclosure) must be completed and item number 7.1.1 must be signed by a beneficiary, trustee or trust officer.

Plans: Title _____ Number of Pages: _____

Specifications: Title _____ Number of Books/Pages: _____

Other Documents (Please Specify) _____

5. This is an Application for (Check Appropriate Line):

☐ A. Joint Construction And Operating Permit
☒ B. Authorization To Construct (See Instructions) NPDES Permit No. IL00 _____ Issue Date _____
☐ C. Construct Only Permit (Does Not Include Operations)
☐ D. Operate Only Permit (Does Not Include Construction)

6. Certifications and Approval:

6.1 Certificate by Design Engineer

I hereby certify that I am familiar with the information contained in this application, including the attached schedule and that to the best of my knowledge and belief such information is true, complete and accurate. The plans and specifications (specifications other than Standard Specifications or local specifications on file with this Agency) as described above were prepared by me or under my direction.

Engineer Paul Tandler E-5613
Name Registration Number

Firm: CERRO COPPER PRODUCTS CO.

Address: P. O. Box 681

East St. Louis, IL 62202

Phone Number: 618/392-6000

Signature X _____

7. Certifications and Approvals for Permit:

7.1 Certificate by Applicant(s)

I/We hereby certify that I/we have read and thoroughly understand the conditions and requirements of this Application, and am/are authorized to sign this application in accordance with the Rules and Regulations of the Illinois Pollution Control Board.

I/We hereby agree to conform with the Standard Conditions and with any other Special Conditions made part of this Permit.

7.1.1 Name Of Applicant For Permit Or Authorization To Construct Cerro Copper Products Co.

P.O. Box 681 East St. Louis IL 62202
Street City State Zip Code

Signature X _____

Title Vice President Organization Cerro Copper Products Co.

The IEPA is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

7.1.2 Name Of Applicant For Permit To Own and Operate Cerro Copper Products Co.
P.O. Box 681 East St. Louis IL 62202
 Street City State Zip Code
 Signature X [Signature]
 Title Vice President

7.2 Attested (Units of Government)

Signature X _____ Date _____ Title _____
 (City Clerk, Village Clerk, Sanitary District Clerk, Etc.)

7.3 Applications from non-governmental applicants which are not signed by the owner, must be signed by a principal executive officer of at least the level of vice president, or his duly authorized representative.

7.4 Certificate By Intermediate Sewer Owner

I hereby certify (Please check one):

X 1. The sewers to which this project will be tributary have adequate reserve capacity to transport the wastewater that will be added by this project without causing a violation of the Environmental Protection Act or Subtitle C, Chapter 1, or

_____ 2. The Illinois Pollution Control Board, in PCB _____ dated _____, granted a variance from Subtitle C, Chapter 1 to allow construction and operation of the facilities that are the subject of this application.

Name and location of sewer system to which this project will be tributary:

Village of Sauget, IL

Sewer System Owner Village of Sauget
2897 Falling Springs RD. Sauget, IL 62206

Street City State Zip Code

Signature X [Signature] Date _____ Title Plant Manager

7.4.1 Additional Certificate By Intermediate Sewer Owner

I hereby certify that (Please check one):

_____ 1. The sewers to which this project will be tributary have adequate reserve capacity to transport the wastewater that will be added by this project without causing a violation of the Environmental Protection Act or Subtitle C, Chapter 1, or

_____ 2. The Illinois Pollution Control Board, in PCB _____ dated _____, granted a variance from Subtitle C, Chapter 1 to allow construction and operation of the facilities that are the subject of this application.

Name and location of sewer system to which this project will be tributary:

Sewer System Owner _____

Street City State Zip Code

Signature X _____ Date _____ Title _____

7.5 Certificate By Waste Treatment Works Owner

I hereby certify that (Please check one):

X 1. The waste treatment plant to which this project will be tributary has adequate reserve capacity to treat the wastewater that will be added by this project without causing a violation of the Environmental Protection Act or Subtitle C, Chapter 1, or

_____ 2. The Illinois Pollution Control Board, in PCB _____ dated _____, granted a variance from Subtitle C, Chapter 1 to allow construction and operation of the facilities that are the subject of this application.

I also certify that the industrial waste discharges described in the application is capable of being treated by the treatment works, and such waste discharges will be in compliance with all currently applicable local, state or federal pretreatment requirements.

Name and location of waste treatment works to which this project will be tributary: American Bottoms Regional Wastewater Treatment Facility & Village of Sauget P-Chem Plant

Treatment Works Owner Village of Sauget

2897 Falling Springs Road Sauget, IL 62206
 Street City State Zip Code

Signature X [Signature] Date _____ Title Plant Manager

C06278

FOR IEPA USE:
LOG #
DATE RECEIVED:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF WATER POLLUTION CONTROL
PERMIT SECTION
Springfield, Illinois 62706

SCHEDULE G SLUDGE DISPOSAL & UTILIZATION

1. Name of Project Cerro Metals Recovery Facility Upgrade
2. General Information
- 2.1 Source(s) Caustic Precipitation of Metals for Recovery from Air Scrubber Water
N/A
- 2.2 Volume (on both a wet and dry basis) _____
- 2.3 Sludge to be disposed of is: Liquid N/A Dry _____
- 2.4 Sludge is: Aerobically digested N/A Anaerobically digested N/A Heat anaerobically digested N/A Raw N/A
Chemically Stabilized N/A Composted N/A WTP Lime Sludge N/A WTP Alum Sludge N/A
WTP Iron Sludge N/A Other _____
Mixture N/A If mixture, describe N/A
- 2.5 Is the sludge defined as hazardous by State or Federal Law X YES _____ NO; if yes, Basis Not a waste; the sludge (precipitated) will be further processed to recover metals, or sold for metal values.
- 2.6 Is sludge to be stored on site N/A YES _____ NO; if yes, type of storage, lagoon _____, storage tank _____, other _____
capacity of storage, _____ cu. ft.
3. Methods of Sludge Disposal and/or Utilization
- 3.1 Land Application ☐
- 3.1.1 Indicate the number of dry tons of sludge per year to be disposed by each of the following methods:
Agricultural land _____ Commercial Fertilizer Production _____ Disturbed Land Reclamation _____
Silviculture _____ Horticultural Lands _____ Public Distribution _____ Other _____
- 3.1.2 Sludge Disposal Site Location. Provide a map (USGS Quadrangle map or Soil Survey Map) showing location.
Name of USGS Quadrangle maps (7.5 or 15 minute) or Soil Survey Map _____
- 3.1.3 Is sludge to be stored at disposal site? _____ YES _____ NO. If yes, storage volume _____ Cubic Feet
- 3.1.4 Name(s), address(es) and license number(s) of sludge hauler(s) _____
- 3.1.5 Provide a copy of sludge user information sheet and signed copies for any known users.
- 3.1.6 In a narrative description provide operating practices and design features to prevent ground and/or surface water pollution, calculations supporting storage capacity, total acres available, soil characteristics, etc. _____
- 3.1.7 Basis of Design and Operation: Submit calculations of sludge application rate for agronomic rate, organic loading and metal loading rate.
- 3.2 Landfilling ☐ on-site ☐ off-site
- 3.2.1 Sanitary Landfill ☐ Special Wastes Landfill ☐ Hazardous Waste Landfill ☐ Other ☐
- 3.2.2 Name and Location of Landfill(s) _____
- 3.2.3 IEPA Permit Number(s) _____

C06279

3.3 Incineration ☐

3.3.1 Name and Location _____

3.3.2 IEPA Permit Number(s) _____

3.3.2 Ultimate Disposal of incinerator residue _____

4. Sludge Characteristics

Submit a complete analyses of sludge characteristics — mg/kg dry wt. basis unless otherwise indicated. The analysis shall be performed unless the sludge is disposed of by incineration or at an off-site landfill. Analyses performed shall include but not be limited to the parameters below:

Parameter

Parameter

% TS

Sulfur

% VS

Aluminum (total)

COD mg/l

Arsenic (total)

pH

Barium (total)

BOD₅ mg/l

Cadmium (total)

Acidity meq at CaCO₃ at pH —

Cobalt (total)

Alkalinity meq at CaCO₃ at pH —

Chromium, hex (total)

Oil and Grease mg/l

Chromium, total

Phenols mg/l

Copper (total)

Cyanide

Iron (total)

Sulfide (total) mg/l

Mercury (total)

Sodium

Nickel (total)

EC MMhos/CM

Lead (total)

TOC

Selenium (total)

Ammonia mg/l

Vanadium (total)

Total Kjeldahl nitrogen mg/l

Zinc (total)

Phosphorus

Other*

Potassium

*Include results of any EP Toxicity tests performed.

% Volatile Acids, if anaerobically digested

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF WATER POLLUTION CONTROL
PERMIT SECTION
Springfield, Illinois 62706

SCHEDULE J INDUSTRIAL TREATMENT WORKS CONSTRUCTION OR PRETREATMENT WORKS

1. NAME AND LOCATION:

1.1 Name of project Cerro Metals Recovery Facility Upgrade

1.2 Plant Location

1.2.1 SE 26 2N low 3
Quarter Section Section Township Range P.M.

1.2.2 Latitude 38 35 47 "North
Longitude 90 10 15 "West

1.2.3 Name of USGS Quadrangle Map (7.5 or 15 Minutes) _____

2. NARRATIVE DESCRIPTION AND SCHEMATIC WASTE FLOW DIAGRAM: (see instructions)

In this unit, copper scrap is melted, purified and cast into Anodes for further purification via Electrolysis.

2.1 PRINCIPAL PRODUCTS: Copper products

2.2 PRINCIPAL RAW MATERIALS: Copper scrap

3. DESCRIPTION OF TREATMENT FACILITIES:

3.1 Submit a flow diagram through all treatment units showing size, volumes, detention times, organic loadings, surface settling rate, weir overflow rate, and other pertinent design data. Include hydraulic profiles and description of monitoring systems. Attached

3.2 Waste Treatment Works is: Batch _____, Continuous X; No. of Batches/day _____, No. of Shifts/day 3

3.3 Submit plans and specifications for proposed construction.

3.4 Discharge is: Existing _____; Will begin on _____.

4. DIRECT DISCHARGE IS TO: Receiving Stream N/A Municipal Sanitary Sewer X, Municipal storm or municipal combined sewer N/A. If receiving stream or storm sewer indicated complete the following: N/A

Name of receiving stream _____; tributary to _____;
tributary to _____; tributary to _____.

5. Is the treatment works subject to flooding? If so, what is the maximum flood elevation of record (in reference to the treatment works datum) and what provisions have been made to eliminate the flooding hazard? N/A

6. APPROXIMATE TIME SCHEDULE: Estimated construction schedule:

Start of Construction _____; Date of Completion _____
Operation Schedule immediate; Date Operation Begins ASAP
100% design load to be reached by year at startup

7. DESIGN LOADINGS

7.1 Design population equivalent (one population equivalent is 100 gallons of wastewater per day, containing 0.17 pounds of BOD₅ and 0.20 pounds of suspended solids; N/A

BOD _____; Suspended Solids _____; Flow _____

7.2 Design Average Flow Rate _____ MGD.

7.3 Design Maximum Flow Rate _____ MGD.

7.4 Design Minimum Flow Rate _____ MGD.

7.5 Minimum 7-day, 10-year low flow _____ cfs _____ MGD.

Minimum 7-day, 10-year flow obtained from _____

7.6 Dilution Ratio _____; _____

8. FLOW TO TREATMENT WORKS (if existing):

8.1 Flow (last 12 months)

8.1.1 Average Flow 0.025 MGD

8.1.2 Maximum Flow 0.056 MGD

8.2 Equipment used in determining above flows Vee Notch Weir; Polysonic meters

9. Has a preliminary engineering report for this project been submitted to this Agency for Approval?

YES NO X. If so, when was it submitted and approved. Date Submitted _____

Certification _____

Dated _____

10. List Permits previously issued for the facility: N/A

11. Describe provisions for operation during contingencies such as power failures, flooding, peak loads, equipment failure, maintenances shut-downs and other emergencies.

N/A. (The entire integrated process unit would shutdown for contingencies as described)

12. Complete and submit Schedule G if sludge disposal will be required by this facility.

13. WASTE CHARACTERISTICS: Schedule N must be submitted.

14. TREATMENT WORKS OPERATOR CERTIFICATION: List names and certification numbers of certified operators:

Joe Burroughs 357 28 6407

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Permit Management Center.

FOR IEPA USE:
LOG #
DATE RECEIVED:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF WATER POLLUTION CONTROL
PERMIT SECTION
Springfield, Illinois 62706

SCHEDULE K WASTE CHARACTERISTICS

Cerro Metals Recovery Facility Upgrade

1. Name of Project _____
2. FLOW DATA

	<u>EXISTING</u>	<u>PROPOSED-DESIGN</u>
2.1 Average Flow (gpd)	25,000	25,000
2.2 Maximum Daily Flow (gpd)	56,000	56,000
2.3 <u>TEMPERATURE</u> (indirect, very small flow; no direct effect on receiving body)		

<u>Time of year</u>	<u>Ave. Intake Temp. F</u>	<u>Avg. Effluent Temp. F</u>	<u>Max. Intake Temp. F</u>	<u>Max. Effluent Temp. F</u>	<u>Max. Temp. Outside Mixing Zone F</u>
SUMMER	_____	_____	_____	_____	_____
WINTER	_____	N/A	_____	_____	_____
- 2.4 Minimum 7-day, 10-year flow: _____ cfs _____ MGD.
- 2.5 Dilution Ratio: N/A ; _____
- 2.6 Stream flow rate at time of sampling N/A cfs _____ MGD.
3. CHEMICAL CONSTITUENT Existing Permitted Conditions _____; Existing conditions X; Proposed Permitted Conditions X
 Type of sample: _____ grab (time of collection _____); X composite (Number of samples per day 12)
 (see instructions for analyses required)

Constituent	RAW WASTE (mg/l)	TREATED EFFLUENT Avg. (mg/l) Max.	UPSTREAM DOWNSTREAM SAMPLES (mg/l) (mg/l)
Ammonia Nitrogen (asN)			
Arsenic (total)			
Barium			
Boron			
BOD ₅			
Cadmium	10.5	0.08	N/A
Carbon Chloroform Extract			
Chloride			
Chromium (total hexavalent)			
Chromium (total trivalent)	0.6	0.90	N/A
Copper	177	0.90	N/A
Cyanide (total)			
Cyanide (readily released @150°F & pH 4.5)			
Dissolved Oxygen			
Fecal Coliform			

	RAW WASTE (mg/l)	TREATED EFFLUENT Avg. (mg/l) Max.	UPSTREAM (mg/l)	DOWNSTREAM SAMPLES (mg/l)
Fluoride				
Hardness (as Ca CO ₃)				
Iron (total)	11.6	ND		N/A
Lead	67	2.2		N/A
Manganese				
MSAS				
Mercury				
Nickel	26	0.06		N/A
Nitrates (asN)				
Oil & Grease (hexane solubles or equivalents)	33	8.8		N/A
Organic Nitrogen (as N)				
pH	3-7	(0.02		N/A
Phenols	(0.02	-		N/A
Phosphorous (as P)				
Radioactivity				
Selenium				
Silver				
Sulfate				
Suspended Solids	218	3.8		N/A
Total Dissolved Solids				
Zinc	143	0.11		N/A
Others				

Note: Because this facility serves a copper scrap processing operation, there may, on occasion exist traces of various other metals which have not been detected regularly in the extensive sampling conducted thus far.